



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicants: Yoshihisa INOUE, et al.
Serial No: 09/897,111 Group: 9238
Filed: July 3, 2001 Examiner: Lu, C.C.
For: PROCESS FOR PRODUCING POLAR OLEFIN
COPOLYMER AND POLAR OLEFIN COPOLYMER
OBTAINED THEREBY

Honorable Commissioner of Patents and Trademarks
United States Patent and Trademark Office
Washington, D. C. 20231

Sir:

DECLARATION UNDER 37 CFR 1.132

I, Shigekazu MATSUI, declare and state that:

1. I am a citizen of Japan, and residing at 2-4-1, Yushudai-nishi, Ichihara-city, Chiba, Japan. In March 1988, I was graduated from Science University of Tokyo (SUT), Department of Applied Chemistry, and received a Bachelor degree of Science from SUT. In March 1990, I was graduated from the graduate course of SUT, majoring in Chemistry, and received a Master degree of Science from SUT. In October 2001, I received a Doctor degree of Engineering from the University of Tokyo.

Since April 1990, I have been an employee of MITSUI Chemicals. Inc. I had been assigned to Life Science Laboratory from September 1990 to September 1993. I had been assigned to Synthesis Laboratory, Petrochemicals Laboratory,

and Material Science Laboratory (the organization was revised in turn) of the above company, October 1993 to March 2001. I had been assigned to Catalysis Science Laboratory of the above company, Molecular Catalysis Group from April 2001 to June 2002. Till the present time, I have been assigned to Catalysis Science Laboratory of the above company, Polymerization Catalysis Group from July 2003.

2. I am a co-inventor of the invention described in the specification of the above-identified application.

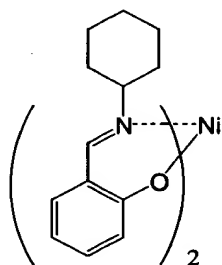
3. The following Experiment I was carried out in order to show that the catalyst groups of the instant invention are superior to the Ni catalyst as used in the prior art.

[Experiment 1]

A Ni complex of Bis-(*N*-salicylidene-cyclohexylaminato)Nickel(II) complex represented by the following formula was synthesized according to the method disclosed in "Jikken-kagaku-kouza (17) 4th edition (Maruzen)" as follows.

Bis-(salicylaldehydato)nickel(II) dihydrate (0.01 mol) was added into a solution that cyclohexylamine (0.022 mol) was dissolved in ethanol (50 ml) and the mixture was refluxed until a precipitate was formed. After cooling, the precipitate was filtered and was recrystallized from hot xylene, to thereby obtain the Ni complex.

Polymerization was carried out in the same manner as in Example 1 of the present specification except that the Ni complex was used in place of the Ti complex (1), however, an aimed polymer was never produced.



Bis-(N-salicylidencyclohexylaminato)Nickel(II)

4. The undersigned declares further that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

This // day of May 2004.

Shigekazu Matsui

Shigekazu MATSUI

日本化学会 編

第4版

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無機錯体・キレート錯体

丸善株式会社

300 5 キレート錯体

【性 質】 緑色結晶. mp 19.5℃ (分解).

Ni(II)²⁾, Co(II)³⁾, Zn(II)⁴⁾ のビス型や Co(III)⁵⁾, Fe(III)⁶⁾ のトリス型錯体なども合成されている.

- 1) L. Hunter and J. A. Marriott, *J. Chem. Soc.*, 1937, 2000.
- 2) G. N. Tyson and S. C. Adams, *J. Am. Chem. Soc.*, 62, 1228 (1940).
- 3) H. Nisikawa and S. Yamada, *Bull. Chem. Soc. Jpn.*, 37, 8 (1964).
- 4) P. Pfeiffer, E. Breith, and O. Bauer, *J. Prakt. Chem.*, 129, 163 (1931).
- 5) R. H. Bailes and M. Calvin, *J. Am. Chem. Soc.*, 69, 1886 (1947).
- 6) W. Klemm and K. -H. Baddatz, *Z. Anorg. Allg. Chem.*, 250, 207 (1942).

ビス(*N*-サリチリデンシクロヘキシルアミナト)ニッケル(II)

[bis(*N*-salicylidene-cyclohexylaminato)nickel(II)]

[Ni(C₁₃H₁₆NO)₂]⁺¹ = 463.26

【製 法】¹⁾ シクロヘキシルアミン (0.022 mol) をエタノール (50 ml) に溶かした溶液にビス(サリチルアルデヒダト)ニッケル(II)二水和物 (0.01 mol) を加え, 沈殿が析出するまで還流する. 冷却後濾過し, 熱キシレンまたはクロロホルム²⁾から再結晶する.

【性 質】 緑色針状結晶. mp 213~215℃. クロロホルム, ベンゼンにわずかに溶ける. 石油エーテルに不溶.

シクロヘキシル基の部分が -CH₃, -C₂H₅, -CH(CH₃)₂, -C(CH₃)₃, -(CH₂)₇CH₃, -C₆H₅ のものなど各種合成できる. また, Cu(II), Co(II), Mn(II), Zn(II), Pd(II), Pt(II), VO(IV) のビス型や Fe(III), Co(III) のトリス型錯体も合成されている³⁾. このほか, Y(III)⁴⁾ や Ln(III) 錯体 (R=CH₃, C(CH₃)₃) も合成できる^{5,6)}.

- 1) L. Sacconi, P. Paoletti, and M. Ciampolini, *J. Am. Chem. Soc.*, 85, 411 (1963).
- 2) R. H. Holm and K. Swaminathan, *Inorg. Chem.*, 2, 181 (1963).
- 3) R. H. Holm and G. W. Everett, Jr., *Prog. Inorg. Chem.*, 7, 83 (1966).
- 4) H. Kuma and S. Yamada, *Inorg. Chim. Acta*, 15, 213 (1975).
- 5) S. Yamada, K. Yamanouchi, and H. Kuma, *Bull. Chem. Soc. Jpn.*, 44, 1448 (1971).
- 6) S. Yamada, K. Yamanouchi, and H. Kuma, *Synth. Inorg. Met-Org. Chem.*, 1, 9 (1971).

* 2 *N*-サリチリデンシクロヘキシルアミン = 